REMARKS/ARGUMENTS

Claims 1-33 remain in the application, all of which stand rejected.

1. Rejection of Claims 1-8, 10-18 and 20-29 Under 35 USC 102(b)

Claims 1-8, 10-18 and 20-29 stand rejected under 35 USC 102(b) as being anticipated by Kanai et al. (U.S. Pat. No. 5,864,679 of Kanai et al.; hereinafter "Kanai").

With respect to Applicant's claim 1, the Examiner asserts that "routing a transaction to a front-end server" is generally taught by Kanai in FIG. 3; col. 10, lines 40-67; FIG. 4; col. 13, lines 61-67; FIG. 5; and col. 14, lines 40-52. The Examiner also asserts that "identifying at least one of a plurality of front-end servers to process said transaction based at least in part on said identified attribute-based category of said transaction and at least in part on said front-end servers being assigned to execute transactions corresponding to said attribute-based category" is taught by Kanai in col. 15, lines 56-62. Applicant disagrees.

In col. 15, line 17 – col. 16, line 11, Kanai teaches the use of a data arrangement table 4B and routing table 4C by a transaction routing unit 4 (see also FIGS. 7-9): Applicant notes, however, that neither of the tables (i.e., table 4B or 4C) maintains assignments between front-end servers and attribute-based categories of transactions. Rather, Kanai uses a transaction type to index table 4C (FIG. 9) and determine which of a number of transaction arguments should be used to specifically identify the data required by the transaction. Kanai then uses these transaction arguments to index table 4D (FIG. 8) and determine which of a number of transaction processors is specifically assigned to access the data required by the transaction.

In contrast to what Kanai discloses, the invention of Applicant's claim 1 routes a transaction based on whether an attribute-based category that is associated with the transaction has been assigned to a particular front-end server. Thus, instead of determining whether the data required by a transaction "is" at a certain processor (as Kanai teaches), the invention of Applicant's claim 1 projects where data required by a

transaction "may be" based on a server's association with a particular attribute-based "category". Although the invention of Applicant's claim 1 may at times be less accurate than Kanai's method (which, according to Kanai, is a "deterministic algorithm"; see col. 15, lines 65-67), Applicant's method can often provide close to the same accuracy, but with faster routing and less overhead.

In some ways, the invention of Applicant's claim 1 is more akin to Kanai's "probabilistic algorithm" (see col. 11, line 64 – col. 12, line 20). However, in contrast to Kanai's maintenance of the processing history and processing cost for each of a number of routed transactions, the invention of Applicant's claim 1 routes transactions based on assignments of attribute-based transaction "categories" to particular front-end servers.

In response to the above arguments, the Examiner indicated in his Final Office Action that, "the invention as claimed requires the selection of a front-end server based. . .in part on the front-end server **corresponding to** the attribute-based category." See, 6/13/2005 Final Office Action, sec. 47, p. 12 (emphasis added). Applicant respectfully disagrees. What Applicant's claim 1 recites is, "identifying at least one of a plurality of front-end servers to process said transaction based. . .at least in part on said front-end servers **being assigned to execute transactions corresponding to** said attribute-based category" (emphasis added). Applicant draws the Examiner's attention to this difference in language because Kanai does not teach that servers are assigned to execute transactions corresponding to attribute-based categories of transactions. Rather, and as discussed above, Kanai teaches 1) a "deterministic algorithm" for routing transactions, wherein transactions are routed based on where the data they need "is", and 2) a "probabilistic algorithm" for routing transactions, wherein transactions are routed based on transaction processing histories and processing costs. In either case, Kanai does not teach that a server is *assigned* to execute transactions corresponding to a particular attribute-based category.

Although the historical routing information maintained by Kanai's "probabilistic algorithm" does include "feature parameters" for routed transactions, it is noted that both feature parameters, and the servers to which transactions are routed, are associated with historical transactions. Thus, instead of just routing a transaction

based on 1) "identifying at least one attribute-based category for said transaction", and then 2) "identifying at least one of a plurality of front-end servers to process said transaction based at least in part on said identified attribute-based category of said transaction and at least in part on said front-end servers being assigned to execute transactions corresponding to said attribute-based category" (as set forth in Applicant's claim 1), Kanai's routing algorithm must 1) identify feature parameters for a transaction, 2) identify historical transactions associated with the identified feature parameters, and do so for each of a plurality of transaction processors, and 3) weigh i) how close the feature parameters of the identified historical transactions are to those of the current transaction that needs to be routed, against ii) the cost of routing the current transaction to each of the transaction processors associated with the identified historical transactions. See, for example, Kanai's teachings at col. 20, line 62 – col. 21, line 44. The complexity of Kanai's routing algorithm stems, at least in part, from the fact that Kanai does not teach the *assignment* of servers to execute transactions corresponding to different attribute-based categories.

With respect to Applicant's claim 7, the Examiner asserts that Kanai teaches "determining when said identified attribute-based category is new and assigning said new attribute-based category to at least one of said plurality of front-end servers" in col. 15, lines 1-25. Applicant disagrees. What Kanai teaches is how to *route* a "newly arrived transaction", and not how to *assign* a new attribute-based category to a front-end server.

With respect to Applicant's claim 8, the Examiner asserts that Kanai teaches "notifying a workload manager of said at least one front-end server assigned to said new attribute-based category" in col. 15, lines 17-32. Applicant disagrees. What Kanai teaches is that upon a determination of a "new data arrangement" amongst the transaction processors, this arrangement may be provided to the transaction routing unit. This is not the same as notifying a workload manager of a new *attribute-based category being assigned to a front-end server.*

With respect to Applicant's claim 13, the Examiner asserts that, in col. 15, lines 26-62, and in FIGS. 9 & 10, Kanai teaches an attribute-based category being based on at least one "perceived" attribute of a transaction. Applicant disagrees. Kanai says nothing about real versus perceived attributes of a transaction. Although

Kanai's method can rely on transaction arguments such as a "Teller-ID" or a "Branch-ID", these arguments are used to determine which of a number of transaction processors is assigned to the data required by a transaction. These arguments (Teller-ID and Branch-ID) are not assigned to a particular server to which all transactions having the same attribute-based category are routed.

With respect to Applicant's claim 14, the Examiner asserts that Kanai teaches "a user table for assigning said at least one attribute-based category to said transaction" in col. 15, lines 45-62. Applicant disagrees. What Kanai discusses in this paragraph is how to look up transaction arguments in a routing table. The user table recited in Applicant's claim 14 is for assigning the attribute-based category, which has to be done before the assigned attribute-based category can be used to look something up. Providing a user table for assigning an attribute-based category to a transaction implies that the transaction does not automatically carry this information, which Applicant believes to be novel when combined with the code for routing a transaction described in his claim 10.

With respect to claim 27, the Examiner asserts that Kanai teaches the association of attribute-based categories with front-end servers in FIGS. 19A & 23, in col. 17, lines 37-50, and in col. 18, lines 51-67. Applicant disagrees for the reasons already provided above. With respect to claims 28 and 29, the Examiner asserts that Kanai teaches the broadcast of server assignments to a plurality of workload managers, in col. 25, lines 39-46. Applicant disagrees. Given that Kanai does not teach the assignment of attribute-based transaction categories to servers, Kanai cannot teach the broadcast of same. Furthermore, the "registered" transaction and transaction source processor referred to by Kanai are not server assignments. Nor do they appear to be "broadcast" to a *plurality of* workload managers.

Each of Applicant's claims 1-8, 10-18 and 20-26 is believed to be allowable at least for the above reasons, or because it depends from one of the above-mentioned claims, or for reasons similar to the above reasons.

2. Rejection of Claims 9 and 19 Under 35 USC 103(a)

Claims 9 and 19 stand rejected under 35 USC 103(a) as being unpatentable over Kanai et al. (U.S. Pat. No. 5,864,679 of Kanai et al.; hereinafter "Kanai") in view of Cross et al. (U.S. Pat. No. 6,681,244; hereinafter "Cross").

The Examiner asserts that Cross teaches "determining a status of an attribute-based category; and deallocating said attribute-based category from said front-end server to which it is assigned when said status is inactive" in col. 6, lines 15-27. Applicant disagrees. What Cross teaches is a switch's removal of a client machine's address from its network table if the switch does not detect a data packet from the client within a predetermined time interval. Cross' switch is not a front-end server. Nor does Cross teach or suggest how its switch is related to the transaction routing method taught by Kanai. Claims 9 and 19 are therefore believed to be allowable in that a combination of Kanai's and Cross' teachings does not yield the inventions of these claims. These claims are also believed to be allowable for the reason that they depend from other claims which are believed to be allowable.

3. Rejection of Claims 30-33 Under 35 USC 103(a)

Claims 30-33 stand rejected under 35 USC 103(a) as being unpatentable over Kanai et al. (U.S. Pat. No. 5,864,679 of Kanai et al.; hereinafter "Kanai") in view of Shapiro et al. (U.S. Pub. No. 2002/0161917; hereinafter "Shapiro").

With respect to claim 30, the Examiner equates a front-end server's maintenance of "its own table of attribute-based categories for transactions that [a sever] has processed" with Kanai's History Information Management Unit 107 and History Information Memory Unit 108. Applicant respectfully disagrees. Referring to Kanai's FIG. 11, it is clear that the Units 107 and 108 are part of Kanai's Transaction Routing Unit 101, and not part of any Transaction Processor 110-1 to 110-m (or front-end server).

Also with respect to claim 30, the Examiner asserts that Shapiro teaches, "after a predetermined time of not processing a transaction corresponding to an

attribute-based category in its table, broadcasting an indication of this event to a plurality of workload managers that can route transactions to the front-end server (". . .poor goodness. . ." page 6 paragraphs 0070/0071)." See 6/13/2005 Final Office Action, sec. 39, p. 9. Applicant respectfully disagrees. The cited paragraphs (0070/0071) of Shapiro say nothing about 1) attribute-based transaction categories, 2) the assignment of attribute-based transaction categories to front-end server, or 3) the broadcast of such assignments *from front-end servers*.
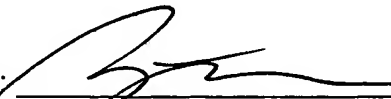
In light of the deficiencies of both Kanai's and Shapiro's teachings, Applicant believes claim 30 is allowable.

Each of Applicant's claims 31-33 is believed to be allowable at least for the above reasons, or because the claim depends from one of the above-mentioned claims, or for reasons similar to the above reasons.

4. Conclusion

Given the above Remarks, Applicant respectfully requests the timely issuance of a Notice of Allowance.

Respectfully submitted,
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